

DN 109:205023

TI **Brain** natriuretic peptide-32: N-terminal six amino acid extended form of **brain** natriuretic peptide identified in porcine **brain**

AU Sudoh, Tetsuji; Minamino, Naoto; Kangawa, Kenji; Matsuo, Hisayuki

CS Dep. Biochem., Miyazaki Med. Coll., Miyazaki, 889-16, Japan

SO Biochem. Biophys. Res. Commun. (1988), 155(2), 726-32

CODEN: BBRC9; ISSN: 0006-291X

DT Journal

LA English

AB **Brain** natriuretic peptide (BNP) is a newly identified peptide of 26 residues, which has a remarkable homol. to but is distinct from atrial natriuretic peptide. The peptide exerts natriuretic-diuretic activity as well as potent chick rectum relaxant activity. By using RIA specific to BNP and immunoaffinity chromatog., a novel peptide of 32 residues carrying

a BNP structure at the C-terminus was isolated from porcine **brain**

. The amino acid sequences of this peptide was Ser-Pro-Lys-Thr-Met-Arg-Asp-Ser-Gly-Cys-Phe-Gly-Arg-Arg-Leu-Asp-Arg-Ile-Gly-Ser-Leu-Ser-Gly-Leu-Cly-Cys-Asn-**Val-Leu-Arg**-Arg-Tyr. This

peptide is an N-terminal six amino acid extended form of BNP and henceforth is designated BNP-32. BNP and BNP-32 are major forms of the BNP family in porcine **brain**.

QPS01.B43

DN 102:198396

TI The distribution and chromatographic characterization of an amino-terminal

fragment of cholecystokinin (CCK) 58 in rat **brain**

AU Beinfeld, Margery C.

CS Med. Cent., St. Louis Univ., St. Louis, MO, 63104, USA

SO Biochem. Biophys. Res. Commun. (1985), 127(3), 720-5

CODEN: BBRC9; ISSN: 0006-291X

DT Journal

LA English

AB Rat **brain** exts. contained a peptide which cross-reacted with an antiserum to Leu-Arg-Ala-**Val-Leu-Arg**-Pro-Asp [96381-43-0], an amino-terminal fragment of cholecystokinin-58. The peptide was distributed in all rat **brain** regions contg. cholecystokinin octapeptide, and was most abundant in areas where cholecystokinin terminals predominate (septum, striatum, and olfactory tubercle/nucleus accumbens). Based on its mol. wt. (1750 daltons) it is probably that the portion of cholecystokinin-58 left when cholecystokinin-39 is cleaved. It may represent an intermediate in the processing of pre-pro-cholecystokinin. The presence of this peptide in the cholecystokinin terminal areas implies that the proteolytic cleavage of cholecystokinin-58 occurs late in the processing, possibly in synaptic vesicles. It may be released with cholecystokinin octapeptide and exert an influence on synaptic transmission.

TI Genetic background for multiple messengers  
AU Bloom, Floyd E.  
CS Div. Preclin. Neurosc. Endocrinol., Scripps Clin. Res. Found., La Jolla,  
CA, 92037, USA  
SO Prog. Brain Res. (1986), 68 (Coexistence Neuronal Messengers: New Princ.  
Chem. Transm.), 149-59  
CODEN: PBRRA4; ISSN: 0079-6123  
DT Journal; General Review  
LA English  
AB A review, with 13 refs., on the use of mol. cloning techniques to  
discover  
new neurotransmitters, with emphasis on the author's recent discovery of  
a  
small, brain-specific, highly repetitive RNA. This RNA, of .apprx.160  
nucleotides, is present at .apprx.100,000 copies in the rat genome and is  
thought to be an identifier sequence. Biochem. and immunocytochem.  
studies

09/228866

DN 104:49095  
TI Rat brain specific protein 1B236: molecular forms and regional  
distribution  
AU Malfroy, B.; Bakhit, C.; Lenoir, D.; Bloom, F. E.; Milner, R. J.  
CS Res. Inst., Scripps Clin., La Jolla, CA, 92037, USA  
SO INSERM Symp. (1985), 25(Regul. Pept. Dig., Nerv. Endocr. Syst.), 213-16  
CODEN: INSSDM; ISSN: 0378-0546  
DT Journal  
LA English  
AB The brain-specific polypeptide 1B236 exists as high-mol.-wt.  
membrane-bound and sol. forms, as well as P5-like and P7-like  
low-mol.-wt.  
forms, which are heterogeneously distributed in rat brain. The  
multiplicity of 1B236 mol. forms indicates that this mol. undergoes  
extensive posttranslational processing to generate a family of previously  
undisclosed **brain-specific peptides**.

TI Synthetic polypeptides corresponding to portions of proteinoids translated

from brain-specific mRNAs, receptors, methods and diagnostics using them

IN Sutcliffe, J. Gregor

PA Scripps Clinic and Research Foundation, USA

SO Eur. Pat. Appl., 93 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 135277	A1	19850327	EP 84-304747	19840711
	EP 135277	B1	19861029		
	R: AT, BE, CH, DE, FR, GB, IT, LI, NL				
	AT 23169	E	19861115	AT 84-304747	19840711
	AU 8430813	A1	19850124	AU 84-30813	19840718
	AU 576508	B2	19880901		
	ES 534510	A1	19850916	ES 84-534510	19840720
	JP 60190796	A2	19850928	JP 84-151146	19840720
	CA 1247521	A1	19881227	CA 84-459320	19840720
	US 4900811	A	19900213	US 87-58620	19870603
	US 5242798	A	19930907	US 90-476961	19900207
PRAT	US 83-516136		19830721		
	EP 84-304747		19840711		
	US 87-58620		19870603		

AB Synthetic polypeptides with amino acid sequences that correspond to portions of brain-specific proteins were synthesized. Antibodies to and diagnostics that utilize these polypeptides are prepd. Thus, cDNA to rat brain total mRNA was prepd. Northern blot anal. of rat brain, liver, and kidney mRNA was used to identify the brain-specific cDNA. The nucleotide sequences of several of the brain-specific cDNAs were detd. and the coding

regions were scanned for charged regions in the vicinity of proline residues. Corresponding polypeptides were synthesized and were coupled

to

3 carriers: keyhole limpet hemocyanin, edestin, and thyroglobulin. The resulting conjugates were used to immunize rabbits. The antibodies isolated from the immunized rabbits were used to det. the location of the proteins in the brain by incubating 60 .mu.m thick sections of brain tissue with appropriate dilns. of an antibody. The sections were then incubated with goat anti-rabbit IgG conjugated to horseradish peroxidase. The antibodies could also be used in a diagnostic system to det. the presence of specific brain proteins.

DN 108:69725  
TI Introduction of foreign genes into nervous tissue cells and its  
expression  
AU Mikoshiba, Katsuhiko; Okano, Hideyuki  
CS Inst. Protein Res., Osaka Univ., Suita, 565, Japan  
SO Taisha (1987), 24(12), 1079-86  
CODEN: TSHAAW; ISSN: 0372-1566  
DT Journal; General Review  
LA Japanese  
AB A review with 36 refs. Expression of human and mouse Thyl antigen genes  
in various tissues of transgenic mice and normal tissues are compared.  
The gene expression in brain and other tissues of transgenic mice is  
shown  
by using a metallothionein gene fused with a rat preprosomatostatin gene,  
human growth hormone gene, calcitonin-related peptide gene, rat growth  
hormone gene, or human hypoxanthine-guanine phosphoribosyltransferase  
cDNA. ID (identifier) sequences of genes coding for **brain-**  
**specific peptides** act as cis-acting pos. regulators for  
tissue-specific RNA polymerase II. An ID-like sequence exists in the  
enhancer region of JC virus, which causes progressive multifocal  
leukoencephalopathy. The early genes of JC virus express strongly in the  
brain of transgenic mice. The SV40 virus large T antigen gene causes  
brain choroidea papilloma. The product of the ras gene possesses nerve  
growth factor-like activity in PC12, a rat pheochromocytoma.

L9 ANSWER 2 OF 2 CAPLUS COPYRIGHT 1999 ACS  
AN 1983:433438 CAPLUS  
DN 99:33438  
TI Autoradiographic localization of cholecystokinin **receptors** in  
rodent **brain**  
AU Zarbin, M. A.; Innis, R. B.; Wamsley, J. K.; Snyder, S. H.; Kuhar, M. J.  
CS Sch. Med., Johns Hopkins Univ., Baltimore, MD, 21205, USA  
SO J. Neurosci. (1983), 3(4), 877-906  
CODEN: JNRSDS; ISSN: 0270-6474  
DT Journal  
LA English  
AB Cholecystokinin (**CCK**) [9011-97-6] receptor binding sites were  
localized by autoradiog. in the guinea pig and rat central nervous  
system.  
The 125I-labeled **CCK**-tridecacontapeptide (**CCK**-33)  
[67256-27-3] labeled the sites in brain slices with an obsd. assocn.  
const. equal to 0.041/min and a dissocn. const. equal to 0.008/min.  
**CCK**-33 and the C-terminal octapeptide of **CCK**-33 (**CCK**-8)  
[25126-32-3] potently inhibited 125I-**CCK**-33  
binding with  $K_i$ 's of 2 nM, whereas desulfated **CCK**-8  
[25679-24-7] and the C-terminal tetrapeptide of **CCK**-33  
[1947-37-1] were much weaker. Receptors were concd. in the olfactory  
bulb, in the superficial laminae of the primary olfactory cortex, in the  
deep laminae of the cerebral cortex, and in the pretectal area.  
Substantial nos. of sites were also found in the basal ganglia, in the  
amygdala, and in the hippocampal formation. 125I-**CCK**-33 binding  
sites appear to be located on fibers of the optic tract and probably on  
olfactory tract fibers as well. These results are discussed in terms of  
physiol. functions assocd. with **CCK**, presynaptic receptors, and

DN 99251483  
TI Identification of receptor ligands with phage display peptide libraries.  
AU Koivunen E; Arap W; Rajotte D; Lahdenranta J; Pasqualini R  
CS Department of Biosciences, University of Helsinki, Viikinkaari, Finland.  
NC CA 30199 (NCI)  
SO JOURNAL OF NUCLEAR MEDICINE, (1999 May) 40 (5) 883-8. Ref: 66  
Journal code: JEC. ISSN: 0161-5505.  
CY United States  
DT Journal; Article; (JOURNAL ARTICLE)  
General Review; (REVIEW)  
(REVIEW, TUTORIAL)  
LA English  
FS Priority Journals; Cancer Journals  
EM 199908  
EW 19990802  
AB With the development and maturation of the technology of displaying peptides on bacteriophage, it has become possible to isolate peptide ligands to various targets. In the phage display strategy, up to 10<sup>9</sup> peptides of different permutations are expressed on the surface of filamentous phage. Thus, peptides capable of binding target molecules in vitro and even target tissues in vivo can be identified. In recent years, a series of libraries that display degenerate peptides of different lengths have been constructed, and specific ligands to cell surface receptors, such as integrins, have been isolated. In the in **vivo** biopanning, **peptides** targeting distinct organs or tumors have been rescued after intravenous administration of **phage libraries** into mice. In one application, the isolated **peptide** ligands have been used to direct a cytotoxic drug to tumor vasculature in mice. Further applications in radioimaging and radiotherapy are be



L12 ANSWER 2 OF 4 MEDLINE  
AN 1998092520 MEDLINE  
DN 98092520  
TI Cancer treatment by targeted drug delivery to tumor vasculature in a  
mouse  
model [see comments].  
CM Comment in: Science 1998 Jan 16;279(5349):323-4  
AU Arap W; Pasqualini R; Ruoslahti E  
CS Cancer Research Center, The Burnham Institute, 10901 North Torrey Pines  
Road, La Jolla, CA 92037, USA.  
NC CA74238-01 (NCI)  
CA62042 (NCI)  
CA30199 (NCI)  
SO SCIENCE, (1998 Jan 16) 279 (5349) 377-80.  
Journal code: UJ7. ISSN: 0036-8075.  
CY United States  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals; Cancer Journals  
EM 199804  
EW 19980401  
AB In vivo selection of **phage** display **libraries** was used  
to isolate **peptides** that **home** specifically to tumor  
blood vessels. When coupled to the anticancer drug doxorubicin, two of  
these peptides-one containing an alphav integrin-binding Arg-Gly-Asp  
motif  
and the other an Asn-Gly-Arg motif-enhanced the efficacy of the drug  
against human breast cancer xenografts in nude mice and also reduced its  
toxicity. These results indicate that it may be possible to develop  
targeted chemotherapy strategies that are based on selective expression  
of

L15 ANSWER 7 OF 15 MEDLINE  
AN 1999219474 MEDLINE  
DN 99219474  
TI Elucidation of muscle-binding peptides by phage display screening.  
AU Samoylova T I; Smith B F  
CS Scott-Ritchey Research Center, College of Veterinary Medicine, Auburn University, Alabama 36849, USA.  
SO MUSCLE AND NERVE, (1999 Apr) 22 (4) 460-6.  
Journal code: NN9. ISSN: 0148-639X.  
CY United States  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 199907  
EW 19990702  
AB Muscle makes up the largest tissue volume of the body, yet its size makes muscle-specific therapy difficult. This becomes particularly relevant

when

approaches to gene therapy for inherited myopathies are evaluated. Thus,

a

mechanism to target constructs or pharmaceuticals to muscle following intravenous injection would be advantageous. By screening a random phage display **library** we have identified a heptapeptide sequence, ASSLNIA, with enhanced in **vivo** skeletal and cardiac muscle binding. **Phage** carrying this **peptide** showed a 9- to 20-fold (depending on control tissue) increase in muscle selectivity compared with **phage** with no insert. When the injected individual phage clone was localized by immunohistochemistry, it was found within focal areas of the membrane of myofibers. Thus, the peptide identified represents a ligand that is capable of accessing skeletal and cardiac muscle from the lumen of blood vessels and could therefore readily be